Mapline

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The Hermon Dunlap Smith Center for the History of Cartography
at The Newberry Library

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Athanasius Kircher's Cartographic Sketches for His *Mundus subterraneus*

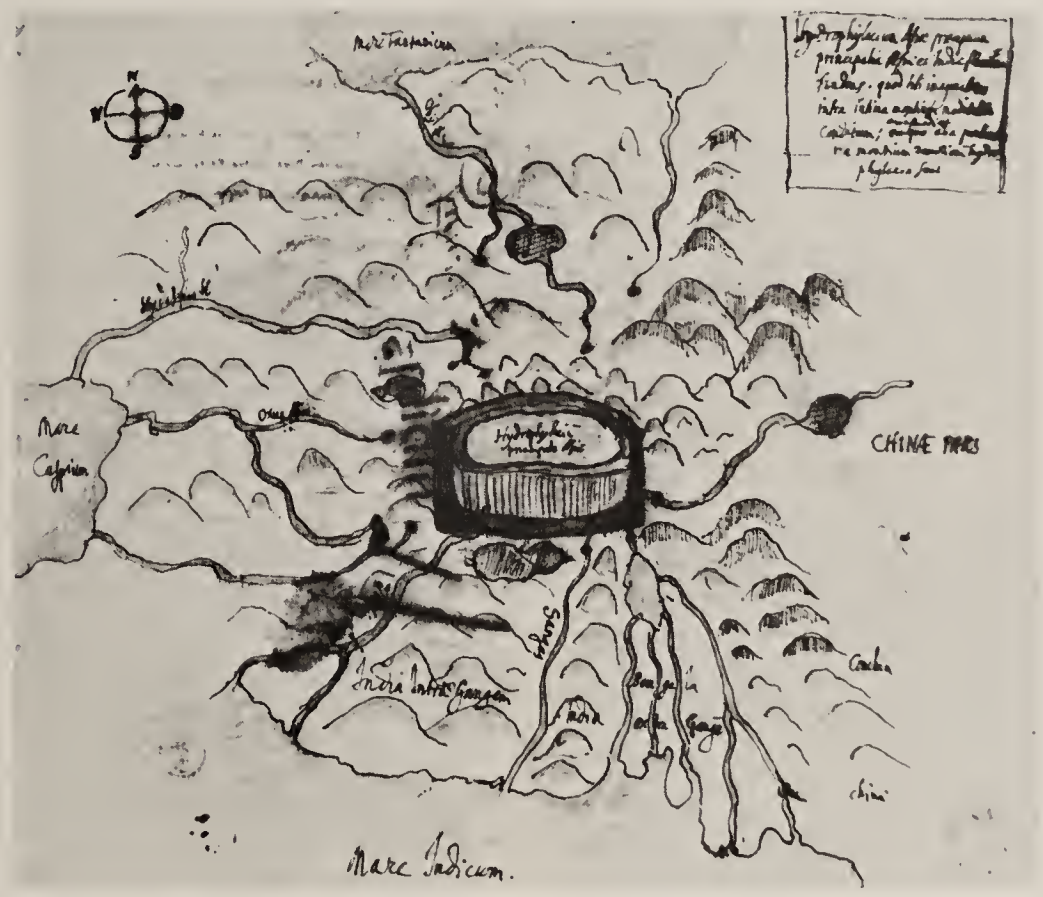

Fig. 1. Kircher's sketch for the *Tabula Geographica Hydrophylacium Asiae Majoris.* Courtesy Biblioteca Nazionale.

The splendidly illustrated 1664/65 edition of Athanasius Kircher's geological and geophysical compendum, *Mundus subterraneus,* will be quite familiar to readers of *Mapline.* This authoritative two-part work of the German Jesuit, who spent almost fifty years in Rome and died there in 1680, was more than a decade in the making. It was reissued in 1668 and 1678 and partially translated into several languages.

Although many of Kircher's manuscripts and his 14-volume correspondence have been preserved, this author's recent discovery of two Kircher autographs

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The Hermon Dunlap Smith Center for the History of Cartography Director: **David Buisseret**

The Center was founded in 1972 at The Newberry Library to promote the study of the history of cartography through research projects, fellowships, courses of instruction, and publications. Further information is available on request.

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Fig. 2. Sketch of Alpine reservoir. Courtesy Biblioteca Nazionale.

among the holdings of the *Fondo Gesuitico* of the Biblioteca Nazionale in Rome provided material that led to a number of speculations on the interrelationship between Kircher and his illustrators at the Amsterdam printing house of Jansson and Weyerstrat, engravers whom the Jesuit never met. One of the two manuscripts contains a group of rather schematic sketches by Kircher that concern the hydrologic cycle of the oceans, lakes and rivers treated in the third of the twelve books of the *Mundus subterraneus.* Together with the phenomenon of vulcanism, the question of the circulation of the earth's waters had been fascinating the Jesuit scholar for a long time. In the third book and again in Book V, Kircher put forth the theory that all rivers are fed from gigantic subterranean water storage areas ("hydrophylacias"), which necessarily were to be found in huge caverns in the interior of the world's major mountain ranges.

A comparison between Kircher's mostly crude sketches and the accomplished engravings performed in Jansson and Weyerstrat's workshop would seem to demand a better and more detailed model for the illustrations. We are indeed fortunate that Kircher added to his sketches short instructions to the engravers, which allow us to recreate this interrelationship between author and illustrator. Kircher knew that the artists had access to the latest cartographic materials in Amsterdam, and thus he did not have to pay attention to geographic details (Fig. 1, Kircher's sketch for the *Tabula Geographica Hydrophylacium Asiae Majoris*). The salient feature of each of these engravings, however, namely the location and appearance of the underground storage cavern, which was at the heart of his theory, could not be found in other sources, of course. For this reason, Kircher submitted one rather detailed drawing of such a *hydrophylacium,* which was separately reproduced in Book V. Kircher could then indicate the approximate location of such a storage cavern in his sketch and leave it up to the engraver to take care of the composition. The ultimate proof of this amazing process can be found on the reverse of the sketch of Southern Arabia and Asia, where Kircher wrote: *Admonitio ad Incisore. . .,* an admonition or instruction to the engraver in which he told him to express a "lake" in the very heart of the mountain, just as he had shown in the drawing of the *hydrophylacium.*

This method of providing rough geographical sketches and at best scant instructions to the engraver worked well in about half a dozen instances, but it was not always foolproof, as can be expected. A misunderstanding occurred when the artist wrongly interpreted Kircher's *Nota bene* written in a sketch right next to the Andes mountains and capped these mountains instead of showing the cross-section that Kircher had in mind. In the case of the Alpine water reservoir (Fig. 2), the engraver followed the well established pattern and composed the cross-section of the cavern into his illustration of the *Typus Hydrophylacii intra Alpes Rhaeticas* (Fig. 3). The Jesuit author, however, caused a different problem which gives us further insight into the workings of the Amsterdam artists: Any time Kir-

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Fig. 3. Engraver's version of *Typus Hydrophylacii intra Alpes Rhaeticas*. Photo by F. Peter Weil.

cher submitted only a crude outline of the geographical features he wanted to have incorporated in the illustration, the engraver would refer to standard cartographic works for such details — this is what we have had to assume so far. The opposite is true in this one instance, where Kircher went to the trouble of drawing a relatively detailed sketch of the rivers of the Alpine region, incorporating the material in a system of 11 × 11 coordinates. The artist must have attached some particular significance to this single detailed sketch of Kircher's since for once he did not follow the geographical features of the region as they can be found on maps as early as 1550. Contrary to the well established west-easterly direction of the Po river, the engraver felt obliged to follow Kircher's highly idiosyncratic geography and turned the lower part of the river into a north-to-south direction, which forced him to represent the coast of the Adriatic Sea as running almost in an east-westerly direction around the Po delta. But what else was the artist way up in northern Europe to do? Kircher, who had spent about thirty years in Rome and Italy by the time he made this detailed drawing, had to have a reason for being much more specific in this one instance, the engraver must have concluded — and since the Jesuit gave no particular instructions in this case, the only reason the artist could see was the radically changed direction of the Po river.

These examples may suffice to illustrate Kircher's amazing relations with his Dutch engravers, a collaboration that extended over a period of almost three decades. Since little if any correspondence has survived between the author and his publisher, the discovery of this manuscript with its sketches and instructions to the Amsterdam illustrators provides an intriguing glimpse of the interrelationship between a seventeenth-century author and his printing house half a continent away.

Gerhard F. Strasser

Dr. Gerhard F. Strasser is professor of German and Comparative Literature at The Pennsylvania State University.

HERMON DUNLAP SMITH, 1900-1983

Hermon Dunlap Smith, whose many gifts to The Newberry Library included the Center for the History of Cartography that bears his name, died on May 11, 1983 from the effects of a fall suffered at his home. He had been a Trustee of the Newberry Library since 1943, and President of its Board for the years 1964-1975. Under his direction and with the leadership of Librarian Lawrence W. (Bill) Towner, the Newberry embarked on an active program of acquisition and development that saw the founding of four permanent research centers, including that for the history of cartography. Mr. Smith was active on the Board until his death.

A native of Chicago, Mr. Smith graduated Phi Beta Kappa from Harvard University in 1921 and joined the insurance brokerage house of Marsh and McLennan in 1934. He served that firm for 37 years, and, after 1955, as President and later Chairman. The word retirement had no meaning for Mr. Smith; at the age of 71 he took over the chairmanship of the Field Foundation of Illinois, a charitable trust, and attended to business there every working day until his death.

Mr. Smith was active in state and national politics and a stalwart supporter of his friend Adlai Stevenson in his campaigns for the governorship of Illinois and the presidency. His benefactions extended to virtually every cultural institution in Chicago, as well as to his alma mater which he served as a member of its Board of Overseers. He served on the Boards of the University of Chicago, the Chicago Historical Society, the Horticultural Society, the Orchestral Association, the Adler Planetarium, the Welfare Council of Metropolitan Chicago, and the Illinois Children's Home and Aid Society. Those few institutions in which he took no active role were ably served by his wife of 54 years, the late Ellen Thorne Smith. Mrs. Smith was his perfect complement and a cultural resource in her own right. A devoted ornithologist and author of a book on birds of the Chicago area, Mrs. Smith served on the Boards of the Field Museum of Natural History, the Brookfield Zoo, and Hull House. She preceded him in death in 1977.

From his earliest associations, he was a particular supporter of the Newberry Library, an institution which appealed to his sense of history and his love of books and maps. His personal collection on the history and mapping of Illinois and the Great Lakes, which he began forming in the 1930s, was a great pleasure to him. He owned most of the important maps and travelers' accounts and had read and studied them all. He had published on the early history of the Chicago area and edited the Revolutionary War journals of Henry Dearborn. When the Hermon Dunlap Smith Center for the History of Cartography was dedicated in 1972, Admiral Samuel Eliot Morison was the keynote speaker. Mr. Smith was delighted to be able to show Admiral Morison a map which Morison had never seen and which bore on the volume on which he was then working, *The European Discovery of America: The Southern Voyages.* Also, on that occasion, Mr. Smith recalled his early interest in maps, beginning with a huge pasted-together set of topographic sheets showing the Hudson Valley, which he had unrolled in the hallway of his parents' apartment.

In 1982, the Library announced its intention of naming the first of its remodeled exhibition halls in his honor at the suggestion of the donor, the Field Foundation of Illinois; regrettably, he did not live to see it dedicated. Although physically active to the end, his last few years must have been increasingly burdensome, for failing eyesight kept him from enjoying his beloved collections. In his will, he left his collection of maps and atlases and midwestern and early American travel narratives to the Newberry Library along with a substantial addition to the Hermon Dunlap Smith Fund that supports the Cartographic Center. He is survived by four children, fourteen grandchildren, nine great grandchildren, and a sister.

With his passing, Chicago and the Newberry Library have lost a great friend and benefactor.

Hermon Dunlap Smith (right) and Newberry Librarian. L. W. Towner opening the Novacco Collection, October 18, 1967.

Mapping the North American Plains

Since the founding of the University of Nebraska's Center for Great Plains Studies in 1976, it has been a major force in the study of the entire region between the Texas Panhandle and the Canadian Prairie Provinces. A multi-disciplinary program offering a number of courses in different departments at the University of Nebraska and granting degrees in Great Plains Studies, the Center also publishes a scholarly journal, the *Great Plains Quarterly;* is undertaking the editing and publishing of a new edition of the journals of Lewis and Clark; maintains programs in the arts and humanities, such as travelling photographic exhibits; maintains the Christlieb collection of western art; is involved in several outreach programs including a Small Towns Institute in the Humanities, a Prairie Project, and a Native American Curriculum Project, and annual scholarly symposia. The most recent of these, held at the University of Nebraska-Lincoln Union on 28-29 April, 1983, was on the subject "Mapping the North American Plains."

The conference was introduced by its convenor, Brian W. Blouet, then director of the Center for Great Plains Studies, now (Fall, 1983) chairman of the Geography Department at Texas A and M University. Blouet and his colleagues on the Center staff are to be commended for organizing a full, informative, and congenial symposium. It is planned to publish the papers in the form of a book.

John L. Allen (geography, University of Connecticut) set the scene and the tone with a keynote address entitled "Patterns of Promise: Mapping the Plains and Prairies 1800-1860." He stressed that the Plains were a "Zone of Passage," unique in that they were well travelled and well mapped long before they were settled. Using the major maps as touchstones, Allen reviewed the changing perceptions of the Plains from that of a harsh and forbidding environment (the "Great American Desert" on Long's 1823 map) to the more optimistic views of Josiah Gregg whose *Commerce of the Prairies* was published in 1844, and Randolph Marcy in the 1850s, who stressed the fertility of the Great Plains and the ease of passage, remarking that the land 'looked like it had been designed by God for a railroad.' After the Civil War, General Land Office maps began to appear in which the neat geographic squares of the land survey system showed the Plains as an area of promise for the homesteader, and not just as a region to be gotten over as quickly as possible.

G. Malcolm Lewis (geography, University of Sheffield, England) gave a polished presentation on "Indian Maps: Their Place in the History of Plains Cartography." Lewis surveyed the scanty evidence for Indian cartography in the pre-contact period, and then went on to give examples of some of the many, many recorded instances of Indian cartographic information being transmitted to Europeans. He pointed out that the geometry of pre-literate maps are topological (that is, non-Euclidean) and that Indians frequently failed to distinguish between rivers, trails, and portages as all were seen as being part of a single transportation system. This "convention" of Native American cartography often misled European cartographers and continues to obscure the interpretation of Indian maps and maps based on Indian data.

Lewis' talk, by the way, was illustrated by the more laborious, but graphically superior method of overhead projection form 9″ × 9″ transparencies. Projection of the images, such an important part of their presentations, is an issue which few historians of cartography have addressed sufficiently. Too many times, the images deteriorate to pleasantly colored shapes when projected from a 35 mm slide. A more satisfactory method for study purposes may well be to rely on larger images afforded by the overhead projector, or on redrawn facsimiles of the old maps discussed.

James P. Ronda (history, Youngstown State University) took the title of his talk, "A Chart In His Way: Indian Cartography and the Lewis and Clark Expedition," from a notation in an expedition diary that a Hidatsa Indian had given them a chart made "in his way" at Fort Mandan in 1805. Ronda surmises that this chart of the upper Missouri may have been drawn on the ground or in some similar perishable or unportable format, since it has not survived. He concluded that Indian maps were important for route finding on the expedition, particularly at the headwaters of the rivers.

W. Raymond Wood (archeology/anthropology, University of Missouri-Columbia) isolated nine stages in the development of Missouri River cartography from 1673 until the 1890s in "Mapping the Missouri River Through the Great Plains: Before and After Lewis and Clark." Wood, who has made a detailed study of the mapping of the Missouri and has published several articles on the subject (including one in *Great Plains Quarterly,* Volume 1, No. 1) pointed out that for decades "the way West" meant the channel of the Missouri River. His nine stages, beginning with the first inkling of the river on the Marquette map of 1673 and continuing on through the maps of the Missouri River Commission, should provide a practical framework for classification of the maps and for future studies in this field.

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Gary E. Moulton (history, University of Nebraska-Lincoln) is the editor of the Center's new edition of the Lewis and Clark journals. The first volume of a projected eleven-volume set, published by the University of Nebraska Press is, fittingly, an *Atlas of the Lewis and Clark Expedition.* The publication of this volume was supposed to coincide with this conference but alas, a glitch in the bindery meant that finished copies were not available. Participants in the conference did have a chance, however, to examine an unbound set of the sheets and the volume is reviewed elsewhere in this issue. Moulton's talk was on "William Clark's Mapping of the Great Plains, 1804-06." Clark was the expedition's cartographer and his maps are as good as his spelling was notoriously poor. There are basically three groups of maps associated with the expedition: Pre-expedition or support maps, route or traverse maps made on the journey, and composite maps made after the expedition. All three types are reproduced in the new atlas. Clark's maps were based on course and distance and his equipment included a "log line reel" for measuring distances on the river. This device apparently introduced some systematic errors, as a study of the mileages in Idaho show that they consistently overestimated land mileage and underestimated water mileage.

At the opening session the following morning, Richard I. Ruggles (geography, Queens University, Kingston, Ontario), who has spent many months working in the Hudson's Bay Company Archives in Winnipeg, spoke on "Hudson's Bay Company Mapping of Rupert's Land, 1670-1870." The Hudson's Bay Company Archives are a source of vast importance for Canadian history and, although still the property of "The Bay" are now housed and administered in the Provincial Archives of Manitoba. Although most of the HBC mapping activity was in the boreal forest, there were some 33 people involved in HBC mapping of the Canadian Plains region. Philip Turner, hired in 1779, was the HBC's first full-time "inland surveyor." David Thompson, who was to play such an important role in the U.S./Canadian boundary surveys, and Peter Fiddler (one of whose manuscript maps was shown in the exhibition which accompanied the symposium) were later HBC cartographers of note. Fiddler prepared some 32 maps and 80 sketches, some of them without ever leaving his post at Chesterfield House, relying instead on information given by Indian informants.

Silvio A. Bedini (Curator of Rare Books, Smithsonian Institution), the leading authority on early American scientific instruments, spoke entertainingly on a subject of great interest to many of those in the audience, "The Scientific Instruments of the Lewis and Clark Expedition." As in so many activities dealing with the expedition, President Jefferson took an active part in organizing its scientific and mapping work. He arranged with Lewis to work with Andrew Ellicott, the foremost man of science in America, on the observation of longitude and latitude. Jefferson recommended the books which should be taken along on the expedition, including volumes on spherical geometry and astronomy, almanacs, botanical works, mineralogy, and a treatise on medicine, recommended that the system of lunar distances be used in determination of longitude and that an equatorial theodolite be used with a pendulum for keeping time. The latter recommendation was vetoed by Ellicott and Robert Paterson, another consultant, in favor of a sextant. The expedition took along a chronometer (cost, $250.00) for use in determining longitude but it gave trouble: It stopped of its own on occasion and was allowed to run down a couple of times. Generally, the astromonical observations made on the expedition were not very accurate — no better than those determined by using the chronometer. Lewis and Clark's best results (and those used in making their maps, as Moulton showed) were obtained by dead-reckoning and latitude observation. Bedini's talk was illustrated with superb examples of many of these instruments in the Smithsonian collections, but few of the actual instruments used on the expedition have survived as all "appurtenances" were sold at auction in St. Louis after the expedition.

Karen S. Pearson (Alaska Division of Geological and Geophysical Surveys) reviewed the major technological developments in cartographic printing and publishing during the 19th century ("American Map Printing in the Era of Great Plains Exploration and Settlement"). She pointed out the gradual emancipation of map publishing from European domination (a process which increased rapidly after the Revolution) and demonstrated the gradual westward movement of American map publishing, until, by mid-century, there were a considerable number of midwestern producers. She also reviewed the major map printing technologies and innovations that helped make cartography a truly mass medium by the end of the 19th century: ruling machines, half-tone screens, lithographic transfers, and various other techniques led to a whole generation of photomechanical maps which were extremely plentiful, occasionally outstanding, but, in too many instances, "mediocre or downright terrible maps."

Walter W. Ristow (Consultant, formerly Chief, Library of Congress Geography and Map Division) spoke on "Commercial Cartography of the Great Plains." The large commercial publishing houses of Mitchell, Colton, Gray, and others played a critical role in the public perception of the Great Plains and Ristow reviewed the history of these colorful and often very collectible images of the region. At least one local collector was seen later subjecting a framed atlas map to Ristow's critical eye.

James Richtik (geography, University of Winnipeg) harked back to themes introduced by Allen in his keynote address in a talk on "Mapping Land Quality on the Canadian Prairie." John Palliser, who led the first survey expedition to the area in 1857-59, did not think the Prairies of much use; his rejected land (labelled

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"desert") includes some of what is now thought the best land in the Prairie Provinces. S.B. Dawson, the geologist, thought the Great Plains had tremendous agricultural potential, while Henry E. Hind wrote that the Plains were sterile and "unfit for the abode of civilized man." Richtik's observations on the work of the Dominion Land Surveyors were especially interesting to those in the audience (the majority) who were more familiar with the American General Land Office surveys. Further analogies to the American experience were the efforts of the Hudson's Bay Company and Canadian Pacific Railroad to have lands granted to them given a respectably high classification.

Richtik's talk was neatly followed by that of Ronald Grim (Library of Congress, Geography and Map Division) on "The General Land Office's Role in Mapping the Great Plains: Kansas and Nebraska." Grim, whose background includes several years of experience handling these maps at the National Archives, reviewed the types of manuscript survey records produced by the Surveyor General's Office: Original township plats compiled from field notes, on preprinted forms; separate plats of township exterior lines; composite plats of townships; and survey field notes. He reviewed the history of the dispersion of various copies of the plats, which were produced in triplicate, and illustrated all his examples with well-chosen examples of areas in Kansas and Nebraska.

Although faced with the unenviable task of winding up a full two-day program with the last talk at 4:00 in the afternoon of the second day, C. Barron McIntosh (geography, University of Nebraska-Lincoln) closed the symposium on a sprightly note with a spirited, voluble, and well-illustrated talk on "Small Scale Resurveys in Nebraska." Wryly noting that his position on the program made him feel somewhat like an afterthought, McIntosh said the surveys he was about to discuss were also afterthoughts: They were resurveys make necessary by inaccurate and downright fraudulent original surveys. While familiar to land surveyors, few historians of cartography or historical geographers are aware of the problems posed by such resurveys. Using a number of well-chosen examples from the sandhills area of Nebraska, McIntosh demonstrated the welter of boundary disputes and litigation resulting from totally inaccurate surveys. He showed that several surveyors hired by the General Land Office made up whole townships, drawing in imaginary topography. Amazingly, when the areas came to be resurveyed some years later, settlers were asked to point out on the ground where they believed their property corners to be and these were fixed as the corners! Naturally they pointed out the most advantageous corners and the resulting maze of boundary lines showed some areas completely unclaimed and others claimed by two or more landowners. The litigation required to straighten out claims like these kept Plains attorneys busy for many years.

Concurrently with the symposium, the Center opened a major exhibition of Great Plains cartography in its gallery in Love Library. Jon Nelson, curator of the Center's art collections, and Ralph Ehrenberg, assistant chief of the Geography and Map Division, Library of Congress, and curator of the exhibition, mounted a highly successful and educational exhibit with splendid maps, printed and manuscript, loaned from the National Archives, the Library of Congress, the Public Archives of Canada, the Hudson's Bay Company Archives, Yale University, and the Newberry Library. The exhibit opened with a fine reception at which Ralph Ehrenberg gave an informal introduction to the items on display and Donald Jackson, the great western historian and editor, enlarged briefly on the history of Lewis and Clark editing. Unhappily, the maps from the Public Archives of Canada could not be present for the opening, since the crate holding them, while it fit neatly on an Air Canada plane in Ottawa, could not be made to fit on any United States carriers and had to be brought overland from Chicago. Ed Dahl, head of the Early Canadian Cartography Section at the National Map Collection, PAC, was upset but maintained a manly bearing as he traced the slow progress of his maps by truck (and, it seemed, by ox-cart) across the plains of Iowa toward Lincoln. After closing in Lincoln, the exhibition moved on to the Library of Congress for viewing from July 1 to September 30.

Robert W. Karrow

Viewing the exhibition at the Great Plains conference. Photo by V. Strode Hinds.

SEVENTH KENNETH NEBENZAHL, JR. LECTURES IN THE HISTORY OF CARTOGRAPHY AT THE NEWBERRY LIBRARY, 1983

The Seventh Kenneth Nebenzahl, Jr., lecture series is due to take place this fall, on October 27th, 28th and 29th. There will be seven lecturers, and the theme will be "Maps in the making: The manuscript and other sources of printed maps." The schedule of the lectures is as follows:

THURSDAY 27 OCTOBER

8:00 PM Sarah Tyacke, *The British Library*
English Overseas Chartmaking c 1560-1640: The Chartmaker's Sources

FRIDAY 28 OCTOBER

***9:30** AM* David Buisseret, *The Newberry Library*
The Sources of the Printed Maps of Christophe Tassin

11:00 AM Jeffrey Stone, *University of Aberdeen*
Copper-plate Engraving as an Influence on Map Content: The Evidence of the Blaeu Atlas of Scotland

2:30 PM Helen Tanner, *The Newberry Library*
The Indian Contribution to the Mapping of the Great Lakes

4:00 PM Theodore Foss, *University of Illinois at Chicago*
The Jesuit Cartographers: Their Education and methods of Mapping in China

SATURDAY 20 OCTOBER

9:30 AM Anne Godlewska, *Clark University*
Sources for the Napoleonic Mapping of Egypt

11:00 AM Norman Thrower, *University of California, Los Angeles*
Mapping the American Southwest Borderlands: Upper Rio Grande to Lower Colorado River, 1846

2:30 PM Informal seminar to discuss issues arising out of the seven lectures

Seating capacity is limited. Please apply for reservations to the Office of the Director, The Newberry Library, 60 West Walton Street, Chicago, Illinois 60610. Telephone (312) 943-9090, extension 251.

Kenneth Nebenzahl Awarded Honorary Doctorate

At its commencement ceremony in Williamsburg on 15 May 1983, the College of William and Mary awarded an honorary degree to Chicago rare book and map dealer Kenneth Nebenzahl. The text of the provost's proclamation follows.

"Kenneth Nebenzahl, scholar of cartography, you personify the symbiotic relationship that exists between the scholarly rare book dealer, the scholarly library, and the scholar. Throughout a distinguished career as a rare-book and rare-map dealer, you have made a major contribution to the history of cartography and to American history, you have given generously of your time and talent to the scholarly development of libraries throughout the land. A friend and patron of scholars and librarians, you hold a unique interdisciplinary place, in your infectious enthusiasm for maps, and at the forefront of American higher education.

"Kenneth Nebenzahl, in recognition of your many contributions to the history of cartography, to the humanities, to scholarship, and to libraries everywhere, this university is privileged to make you an honorary alumnus. By virtue of the authority vested in me by the Board of Visitors and the ancient Royal Charter of the College of William and Mary in Virginia, I hereby confer upon you the degree of Doctor of Humane Letters, *honoris causa.*"

Speculum Orbis Press

Facsimiles have played an important role in the development of the history of cartography as a discipline. From beginnings at least as early as 1591 (Welser's engraved facsimile of the Peutinger map) through the great facsimile atlases of the nineteenth century by Jomard, Santarem, and Nordenskiöld, and up to the photographic and printed facsimiles of today, facsimile publication has been vital in the dissemination of images of unique or rare maps and atlases. Now, under the aegis of map collector John Monkton, a Chicago publishing firm is undertaking the publication of extremely high quality facsimiles of maps important in the discovery and exploration of America. Judging from its first facsimile, Joann Ruysch's world map of 1507-08, Speculum Orbis Press has spared no pains to simulate, as faithfully as possible, the look and feel of a sixteenth-century map. Ruysch's map, published in the 1508 Rome edition of Ptolemy, is of great importance for illustrating the first inklings of an American continent. Here the islands discovered by Columbus stand not far from the coast of Asia, and Ruysch comes close to identifying Cuba with Marco Polo's Cipango (Japan). Like the original, this facsimile was printed by the intaglio process from copper plates. The plates were produced photo-mechanically from Mr. Monkton's copy of the original, and were printed in the time-honored way by Chicago graphic artist Sarah Burnham Mertz. The paper was hand made by the Barcham Green mill in England especially for this edition, and closely matches, in color and weight, the paper of the original. The paper is watermarked with Barcham Green's initials and the date 1982. The impression is crisp and dense, and the "tooth" produced by the ink lying atop the surface of the sheet is easily felt. In fact, few if any copies of the original map will show as strong an impression. The map is accompanied by commentary by David Woodward, and is limited to two hundred numbered copies. A series of twenty facsimiles is projected, to be capped by a new wall map of America, commissioned by the Press. The second facsimile, the Sylvanus woodcut map from the 1511 Ptolemy, is now being printed, with a handpress, on paper from the Twinrocker Mill in Indiana. The maps are priced at $300 each, and a prospectus is available from Speculum Orbis Press, 141 W. Jackson Boulevard, Suite 3620, Chicago, Illinois 60604.

Detail of Ruysch's World Map. Photo by F. Peter Weil.

GERALD R. CRONE, 1899-1982

Gerald Roe Crone, eminent scholar, librarian and pioneer in the history of cartography died October 6, 1982. Of his many books, the best known is *Maps and Their Makers: An Introduction to the History of Cartography,* a work intended for the general reader, which went through numerous editions, and was most recently released in a lavishly illustrated edition by Dawson in 1978.

His scholarly writing included *The Voyages of Cadamosto, and Other Documents on Western Africa in the Second Half of the Fifteenth Century,* published by the Hakluyt Society in 1937; his important articles on Martin Behaim in *Actas de Congress Internacional de Historia dos Descobrimentos,* and his numerous review articles. He was a member of the International Geographical Union's Commission on Ancient Maps and aided the production of *Imago Mundi* for some thirty years. He held posts at the Royal Geographical Society from 1945-66. A full bibliography of his writings is to be published in the *Transactions of the Institute of British Geographers* and those in the history of cartography in *Imago Mundi.* (Source: Obituary by E.M.J. Campbell, *The Map Collector,* June, 1983).

DAVID GREENHOOD, (1896-1983)

David Greenhood, known through his book *Mapping* to map buffs, amateur surveyors and cartographers alike, died in Santa Fe on March 26 after a long illness. His achievements in the world of writing and publishing were many.

If a classic is a book of broad appeal that stands the test of time, then Greenhood's *Mapping* is surely one. Since its first publication in 1944 (under the title *Down to Earth: Mapping for Everybody),* it has never been out of print. Its current reduced-size version published by the University of Chicago Press in paperback continues to be widely used as a textbook in introductory courses and to be a basic reference on the shelves of anyone interested in maps. Its readable text and superb illustrations by Ralph Graeter have kept it fresh, and it is still the best and most complete introduction to the subject (where else, outside of the Boy Scout merit badge booklet, will one find instructions for making a simple plane table survey?).

This is all the more remarkable when we consider that mapping was just one of Greenhood's interests, and that he was best known as a poet. His poem, "To Know a Mountain," was selected as one of the "Best Poems of 1972" by the Borestone Mountain Poetry Awards — one of many poems, essays, and short stories printed over the years in literary magazines. He wrote novels and non-fiction, as well. Those who are interested in the related fields of map printing and private press book-printing and typography will be interested to know that Greenhood was also the author of several works on the history and appreciation of fine printing and typography. Among these works is *Chronology of Books and Printing,* co-authored with his wife, Helen Gentry.

CALENDAR

29 August - 2 September

The Tenth International Conference on the History of Cartography is being held at Trinity College, University of Dublin, from 29 August to 2 September. Four topics are of central importance in the discussions: The cartographer's methods and sources, colonial cartography, agrarian cartography, and the history of map collecting.

October 7 -9

Mid-America Historical Geography Association, St. Paul-Minneapolis, Minnesota. The meeting will be hosted by The Science Museum of Minnesota in cooperation with the Departments of Geography at the University of Minnesota and Macalester College, and the Minnesota Historical Society. Four paper sessions and one poster session are planned. The two main topics will be: 1) Urban History and Transportation and 2) Midwestern Hinterlands. For information, write MHGA 1983 c/o Geography Department, The Science Museum of Minnesota, 30 E. Tenth Street, St. Paul, Minnesota.

October 16 - 21

Computer-assisted Cartography: International Perspectives on Achievements and Challenges: Sixth International Symposium on Automated Cartography. Planned for providers and users of approaches, ideas and equipment in the field of computer-assisted cartography. Information is available from Dr. Barry S. Weller, Chairman, Auto-Carto Six Technical Programme, Department of Geography, University of Ottawa, Ottawa, Ontario, Canada K1N 6N5.

October 20 - 22

North American Cartographic Information Society, Milwaukee. (Donald Daidone, Newman Library, Virginia Tech, Blacksburg, VA 24061).

October 27 - 29

The Seventh Series of Kenneth Nebenzahl, Jr. lectures will be held at the Newberry Library. The full schedule of lectures is printed elsewhere in this issue.

CARTO-03 as photographed by its compiler, Yves Tessier, above Quebec.

Yves Tessier, head of the map library at the Université Laval, and compiler of a bibliography of maps of the Quebec region (reviewed in this issue) produced this unusual photograph to advertise his book. He writes: A map librarian is a type of professional entrepreneur aiming at the optimal satisfaction of spatial information needs in cartographic form. Designing and implementing a product (map library service) is nearly useless without aggressive marketing, the most underdeveloped area of librarianship. CARTO-03 *is a marketing-inspired approach to promoting and making use of my map service (of my own usefulness . . .) to my local community. This cartobibliography was designed to be a product hopefully second to none in the field and in the local area. Since I am mainly iconic-minded (be it through cartography or photography), I designed this visual way of bibliographically describing a carto-graphic (spatially iconic) document. That is why I claim that* CARTO-03 *is the first fully visual cartobibliography to be ever published (unless I am wrong). It is common sense that the best bibliography of visual documents is a visual bibliography of these. Why didn't we invent that before?*

As to the marketing of my marketing instrument, I thought it appropriate to coin a reminiscent image of CARTO-03. *Why not take* CARTO-03 *right to the core of its region, in the field, overhanging one of the most scenic landscapes of North America and the place where colonization by Europeans began? Why not use photographic artistry to enhance the intent in eye-catching rendition with controlled distortion (is not Earth round?)! The photographer side works for the map librarian other side.*

75TH ANNIVERSARY OF NATIONAL MAP COLLECTION

Attention is focused on the map collection of the Public Archives of Canada in the March-April 1982 issue of *The Archivist*, in celebration of the 75th anniversary of its formation. In a forward to the issue, W.I. Smith, Dominion Archivist, writes, "The present National Map Collection with holdings of approximately 1,000,000 items and a staff of 24 persons, bears little resemblance to the Map Room established in 1907, which consisted of a few thousand maps and a staff of one man."

The article reports on the beginnings, the steady growth of the collection and its major publications, and concludes by summarizing the contents of the major areas of the collection.

DOROTHY BARTLETT

Dorothy W. Bartlett, a former staff member of the Library of Congress Geography and Map Division, died on May 26. She had had a long and distinguished career as a map librarian and geographer with the National Archives, the Foreign Economic Administration, the Department of State, the Department of Agriculture, and the Central Intelligence Agency before coming to the Library of Congress in 1962. At LC G&M, she headed the Reference and Bibliography Section before becoming bibliographer of the Division in 1970. In the latter post, she helped prepare for publication the massive *Bibliography of Cartography* which the Library had been compiling since the days of P. Lee Phillips, and which G. K. Hall & Co. published in 1973.

—L C Information Bulletin, Ed.

Map Society of the Delaware Valley

The Map Society of the Delaware Valley held its first meeting on Monday evening May 23, 1983. Members of the newly formed group include cartographers, scholars, researchers, collectors, and dealers. Society membership is open to anyone interested in ancient or modern maps. Meetings will include informal discussions about maps, lectures, and trips to sites of interest. The proposed annual membership is $15. For further information write D.V.M.S., 33 Benezet Street, Philadelphia, PA 19118 or call 242-4750.

BRIEFLY NOTED

The Geography and Map Division of the Library of Congress has recently acquired by exchange a manuscript map of the Battle of Bunker Hill, fought on June 17, 1775, which is signed by General Sir Henry Clinton, who commanded the reinforcements of the British Army at Bunker Hill and who later replaced Sir William Howe as the British commander-in-chief in America. The pen, ink, and watercolor map appears on the verso of music book pages printed with colonial period drinking songs. The map adds to a large collection of Revolutionary War period maps, including a dozen of the Bunker Hill Battle. (From *L.C. Information Bulletin).*

The voyage of Jan Huygen van Linschoten and his *Itinerario* (Amsterdam, 1595-96) are the subject of the June 1983 number of *The Manifest: A Newsletter to the Associates of the James Ford Bell Library.* The Bell Library has just acquired a copy of this very rare book by the navigator who "is to East India trade what Shakespeare is to English literature." (Associates of the James Ford Bell Library, 472 Wilson Library, University of Minnesota, 309 19th Ave. South, Minneapolis, MN 55455)

Die Ulmer Geographia des Ptolemäus von 1482: Zur 500. Wiederkehr der ersten Atlasdrucklegung nördlich der Alpen / Ausstellung und Katalog, Karl-Heinz Meine. Weissenhorn, West Germany: Anton H. Konrad Verlag, 1982. (Veröffentlichungen der Stadtbibliothek Ulm, Band 2). DM28.

Graphic Materials: Rules for Describing Original Items and Historical Collections / comp. by Elisabeth W. Betz. Washington: Library of Congress, 1982. *Detailed rules for description, expanding on AACR2 chapter 8; many parallels to map cataloging practice.*

Two articles in *The Map Collector* (issues 13 and 19) by Conrad Heidenreich and Edward Dahl have been reprinted in a handsome booklet. Under the title *The French Mapping of North America, 1600-1760,* the booklet reprints the sixteen pages of the original articles plus an additional three pages of new illustrations. A total of twenty-six maps are reproduced, two (on the covers) in color. Available from The Globe, P.O. Box A3398, Chicago, IL 60690 and from D. & E. Lake, 106 Berkeley St., Toronto, M5A 2W7.

In "A Brief Discussion of Philadelphia Maps" in the June issue of *Philadelphia City Archives Newsletter,* Jefferson M. Moak discusses the rich heritage of Philadelphia city maps and plans in terms of their continued accessibility within the libararies and museums of the city. Many of these maps repose in one or more of the three major Philadelphia collections; the Free Libarary of Philadelphia, the Historical Society of Pennsylvania and the City Archives. Others may be found in Temple University's Urban Archives and other Philadelphia collections. The discussion will continue in the next issue of the *Newsletter* (Philadelphia City Archives, Room 522, City Hall Annex, Philadelphia, PA 19107)

Das Bild der Erde: Kontinente, Länder, und Städte in der Italienischen Kartographie des 16. und 17. Jahrhunderts / Ausstellung und Katalog, Fritz Hellwig. Cologne: Italienisches Kulturinstitut, 1983. *Lists 146 maps and views, includes bibliography and indexes.*

Historische Vermessungsinstrumente: Ein Verzeichnis der Sammlungen in Europa = Historical Surveying Instruments: List of Collections in Europe = Les instruments historiques d'arpentage: Répertoire de collections en Europe / herausgegeben von Helmut Minow. Wiesbaden: Verlag Chmielorz, 1982. DM108.

Z Dziejów Kartografii / pod redakcją Juliana Janczaka i Zbigniewa Rzepy. Wroclaw: Polska Adademia Nauk, 1980. *Proceedings of a conference on the history of the mapping of Polish salt mines. There is an English summary by Janczak on pp. 175-181.*

Rozwój Kartografii Wybrzeża Gdańskiego do 1772 Roku = [The Development of the Cartography of the Danzig Coastal Area to 1772] / Jan Szeliga. Wroclaw: Zakład Narodowy Imienia Ossolińskich, 1982. *Summaries in Russian and German.*

Recent Publications

Antique maps of the British Isles, / David Smith. North Pomfret, Vermont: David and Charles, 1982 ($62.00 Batsford/David and Charles, North Pomfret, Vermont 05053).

British County Maps: Reference and Price Guide / Yasha Beresiner. Woodbridge: The Antique Collectors' Club, 1983. (£ 25 from the Club, 5 Church Street, Woodbridge, Suffolk, IP12 1BR, England).

These two books, which are only concerned with printed maps, coincide at various points (though their information is not always the same. . .). British county maps *is more obviously aimed at the collector, with its 'guidelines to the collector' and 'reference and price guide.'* Antique maps of the British Isles *casts its net wider, with chapters on the history of cartography in Britain, map production, conventional signs and so on, but it too devotes more than half of its space to what Beresiner calls 'An A to Z of cartographers of British county maps'. Beresiner's book is bigger, has color plates, and is cheaper; on the other hand, Smith's covers more ground. Maybe the most amusing thing to do would be to buy them both, and then study them carefully to see where and why their authors differ.*

Antique Maps, Sea Charts, City Views, Celestial Charts & Battle Plans: Price Guide and Collector's Handbook for 1983 / comp. and ed. by David C. Jolly. Brookline, Mass.: Jolly, 1983. ($31.50 from David C. Jolly Publishers, P.O. Box 931, Brookline, MA 02146)

Out of the welter of recent books catering to the map collector, most of them of indifferent quality and highly repetitive, Jolly's book emerges as something completely different, and very useful. Essentially, he has compiled a price guide to maps along the lines of the Bookman's Price Index, *listing, under author and title, 5,337 maps offered in the catalogs of twenty-six dealers during 1982. This information has never been findable before, short of leafing through hundreds of pages of catalogs. And, while maps are listed in the auction records, auction prices are not always a good reflection of the elusive "current market value." Any librarian or dealer, pressed to come up with some approximate value for an old map, will appreciate the convenience of having so many titles indexed in one place. The dealers whose catalogs were reviewed are primarily American, English, and Canadian; there are also a West German and a Swiss. Prices have all been converted to mid-1982 dollars, a practice which certainly facilitates comparisons. There are also brief sections entitled 'Glossary of Map Related Terms,' 'Factors Affecting the Value of a Map,' 'How to Detect Reproductions,' 'How to Start a Map Collection, 'Useful Reference Books,' 'The Geography of Claudius Ptolemy,' 'List of the Editions of Ptolemy,' 'Dictionary of Map and View Makers,' and some pages of interesting statistical gleanings from the index, to name not quite all of them. Despite the familiar sound of these sections (one feels one's eyebrows raise while scanning the table of contents) the information manages to be refreshingly accurate, clear and really helpful to the beginner. Armed with this guide and some background reading in the history of cartography, the novice collector could easily avoid making foolish mistakes, although Jolly warns the reader prominently that the price information is only an approximate guide to value and must be used with caution. Clearly, a lot of thought and work went into this production, and while there are some rough edges to be smoothed, especially in widening the list of catalogs, it fills a real need and should be given every encouragement. If the response warrants, Jolly plans to publish the guide annually; this reviewer looks forward to the 1984 volume.*

Atlas of the Lewis and Clark Expedition / Gary E. Moulton, ed. Lincoln: University of Nebraska Press, 1983. Journals of the Lewis and Clark Expedition, vol. 1. ($100 [$85 with standing order for *Journals*] from University of Nebraska Press, Lincoln, NE 68588)

The last edition of the primary documents of the greatest expedition in American history was that of Reuben G. Thwaites in 1904-05. Since that time, a great deal of new manuscript material has come to light, much of it cartographic. This new edition of the Journals, *wisely sensing the need to place the events in their geographical perspective, begins with the atlas volume, and a splendid production it is. In the large format of 19½ x 13½ inches, the* Atlas *reproduces 129 old maps, including 42 never before published. The maps were printed by Meriden Gravure Co. and are beautifully reproduced, most at full size. Both line and very finely-screened halftone negatives were made for each map; when printed together, the linework retains its original strength, while tonal variations of lines and paper are accurately recorded. here are the preliminary maps, those studied by Lewis and Clark before the expedition or carried with them; the route maps, mostly by William Clark, and covering a few day's or a week's travel along the river, and the postexpeditionary maps, culminating in the map from the Biddle edition of 1814. A series of index maps makes it very easy to locate maps of a particular portion of the route. The scholarly introduction is followed by a 'Calendar of Maps' with measurements and locations of originals, transcriptions of markings on the versos, and notes. All in all, a cartographic landmark, and a grand beginning to what promises to be the definitive edition of Lewis and Clark.*

A Catalogue of Printed Maps of Greece, 1477-1800/ Christos G. Zacharakis. Nicosia, Cyprus: The A. G. Leventis Foundation, 1982. (From Chr. G. Zacharakis, P.O. Box 1799, Nicosia, Cyprus)

This volume supercedes the author's earlier list, published as numbers 98 and 102 of the Map Collectors' Circle. Whereas those volumes listed 707 maps, the present work lists 2,173. Only 'chorographical' maps are included, maps of the country as a whole and its major regions. Detailed topographical plans, views, battle-maps, and manuscript plans are omitted. The listing is alphabetical by cartographer or publisher, and descriptions are brief, but entirely adequate for most purposes (full title, author, engraver, etc., size in centimeters, source). Many of the maps listed are found in atlases, geographies, and travel books, and it is always good to have this sort of material made more accessible. The 'Corpus illustratus,' which occupies over half the volume, is a very welcome feature. It reproduces, in very reduced but generally quite legible form, fully 500 of the maps described in the catalogue. It thus constitutes a sort of mini-facsimile atlas of Greek maps, and should get heavy use in map reference collections. Unfortunately, the utility of this work will be limited by the fact that it lacks indexes of titles and geographical areas. A title index would be of great use to librarians and dealers trying to identify loose sheet maps in their collections. For instance, confronted with a map titled Isle et Royaume de Candie, *without any other identification, a user might search through 958 entries before finding it listed under D. de la Feuille, in whose* Atlas portatif *it appeared. An index entry under 'Isle' would have made this a simple look-up. Similarly, a user interested in maps of Crete in 1796 would have to search the entire list to be sure of finding everything relevant. De la Feuille's map and any others could have been easily indexed under the rubric 'Crete - 1796.' It is always unfortunate to see works of real merit limited by the lack of adequate indexes. Perhaps a second edition (or a simple supplement) can remedy this failing of an otherwise very commendable work.*

Cartographic Relief Presentation / Eduard Imhof. Ed. by H. J. Steward. Berlin, New York: deGruyter, 1982. ($79.95 from the publisher, 200 Saw Mill River Road, Hawthorne, NY 10532).

Since its publication in 1965, Kartographische Geländedarstellung *has been the fullest and best textbook of the techniques of showing relief on maps. Even for those unable to read the German text, the hundreds of black-and-white illustrations and fourteen colorplates were a stimulating exposure to the possibilities of relief portrayal. Imhof is a master at synthesizing what he refers to as "the peculiar dual nature of cartography; it being a technology as well as an art" (plate 10, entitled "The Map as a Landscape Painting" is a stunning example of that synthesis). This translation has been the work of many hands over a period of fifteen years, but it remained for Professor Steward of Clark University to, in Imhof's words, "overcome every linguistic, editorial and other relevant obstacle" and see the English edition into print. It should take its place as an essential textbook in cartographic courses in the English-speaking world.*

Cartographic Materials: A Manual of Interpretation for AACR2 / prepared by the Anglo-American Cataloguing Committee for Cartographic Materials, Hugo L. P. Stibbe, General Editor. Chicago: American Library Association, 1982 ($40, from ALA, 50 East Huron, Chicago, IL 60611 or from the co-publishers, the Canadian Library Association in Ottawa or the Library Association in London).

It is the nature of cataloguing codes to raise as many questions as they answer. The ink was hardly dry on the second edition of the Anglo-American Cataloguing Rules (AACR2) *before corrections, revisions, and interpretations began to appear. With amazing alacrity, a committee of map cataloguers was formed and they have expanded the 27 pages of AACR2 devoted to maps to the 258 pages of the present manual. Basically, the manual consists of relevant rules from various sections of AACR2, followed by specifically cartographic examples illustrative of the rules, by prescribed notes on "application" to cartographic materials and, in the case of optional rules, by the policies of the national library cataloguing agencies in the English-speaking world with regard to the rules. Many line drawings, appendices on scale calculation and the treatment of map series, 182 examples of full descriptions, and thorough glossary and index enhance the value of what will likely become an internationally accepted code for map cataloguing. The specific problems of cataloguing old maps are purposely not addressed here but with a little imagination even the antiquarian cataloguer should find this a valuable guide.*

CARTO-03: Répertoire Cartobibliographique sur la région de Québec / Compilé par Yves Tessier, avec la collaboration de Jacques Martinez et...Louise Lavoie. Québec: Bibliothèque de l'Université Laval, 1983. 269p. (CAN $15, from the Bibliothèque, Québec GIK 7P4, Canada)

The Quebec region of Canada (region 03 of Quebec province) is here provided with a most useful and unusual map catalogue. Each of the 247 maps described is illustrated by a full-scale reproduction (about 16 centimeters square) of a portion of the map. Each page is devoted to a different map with the bibliographical description and call number at the top of the page and the reproduction at the bottom. Beginning with the Canadian topographical sheets for the area and proceeding through maps produced by Quebec province, by the region, by the subregions, and by the cities in the region, the catalogue provides a graphic overview of the available maps. Part two, "Cartes Anciennes" describes and illustrates fourteen maps of Quebec province and city dating from 1670 to 1915. The maps are all reproduced in black and white, and as the quality of the originals obviously varied and some contained tonal gradations difficult to reproduce cheaply, not all the reproductions are very satisfactory. This is probably an inevitable consequence and does not detract much from the overall value of the catalogue. CARTO-03 should prove an extremely valuable tool for anyone interested in the geography or history of the Quebec area, and its technique

of allowing the map itself rather than a verbal description to carry the burden of the explanation is one that historians and bibliographers of old maps would do well to contemplate.

Catalogus bij de tentoonstelling 'Toonneel des Aerdrijcx': Oude kaarten in het Universiteitsmuseum ter gelegenheid van het 75-jarig bestaan van het Geografisch Instituut Rijksuniversiteit Utrecht (Catalogue of the Exhibition 'Theater of Geography': Old Maps in the University Museum on the Occasion of the Seventy-Fifth Anniversary of the Geographical Institute of the State University at Utrecht) Utrecht: Universiteits Museum, 1983 (The Museum, Bilt Straat 166, Utrecht, Netherlands).

This catalogue begins with a brief history of the map collections of the Geographical Institute and is followed by descriptions and rather extensive captions for 59 maps dating from the sixteenth through the nineteenth centuries. There are world maps (item No. 1 is the Mercator / Lafreri double cordiform world map) and many maps of areas in the Netherlands and areas in which Dutch explorers were active. Although modestly produced by offset from typed copy, the 31 illustrations of maps are very well done and, except when the reduction has been extreme, quite legible.

Common Landscape of America, 1580-1845 / John R. Stilgoe. New Haven and London: Yale University Press, 1982 ($29.95 from the press, 92A Yale Station, New Haven, CT 06520)

While not in any sense specifically about maps, this book abounds in tantalizing details about what man has done to the surface of the eastern United States and what he has built and planted on it, and much of the information will be of direct interest to historians of cartography. For instance, Stilgoe remarks, in passing, on the developing role of the civil engineer, on the extensive road networks necessitated by the rectangular grid of the public land survey, on the profusion of "paper cities" in the 1830s (at some of which sites "a seventy-four gun ship could ride at anchor over the chimneys of the hypothetical houses"), and on the widespread influence of Morse's American Geography. Beginning with medieval conceptions of wilderness and landscape, Stilgoe moves on to look at specific pieces of the picture, including the grid, roads, crops, graveyards, school houses, mills, and factories, to name a few. Common Landscape is such a fascinating essay on the man-made environment (the stuff of most topographical maps) that no one interested in the content of old maps of America could fail to benefit from its study.

The Compact Atlas of Idaho / by cartography students, Department of Geography, College of Mines and Earth Resources, University of Idaho, under the direction of Alan A. DeLucia. Moscow: Center for Business Development and Research, 1983. (Unpriced, from Center for Business Development and Research, University of Idaho, Moscow, ID 83843)

The introduction begins "Idaho is not well known in the United States or in the world and many Idahoans like it that way. Many on the east coast of the U.S. still believe Idaho is really Iowa or Ohio." Mapline readers would certainly never make that mistake, but they might want to know more about the state that leads the nation in the production of potatoes, silver, antimony, and garnets. This is a good place to start. With 122 maps, this paperbound volume covers a wealth of data. There is a map of historical sites, another of Indians, and two historical charts, but most of the volume is devoted to economic and demographic patterns using modern data. Most maps are printed in two colors, and usually to good effect, although a few pages are unecessarily cluttered. There is an interesting series of computer relief maps, rotated through the points of the compass, a useful section of simple city maps, and an overlay in a pocket at the back to facilitate use of the thematic maps. Recommended reading for those on the east coast.

English Map-making, 1500-1650 / Ed. by Sarah Tyacke. London: the British Library (Great Russell Street, London WC1B 3DG, England), 1983.

This handsome volume contains eight essays on English map-making, taking in not the usual run of printed maps, but rather addressing the difficult questions about how those maps came to be made. Every reader will find his favourites among the essays, but the one by William Ravenhill on Christopher Saxton's surveying methods (did he use the Elizabethan beacons?) will surely rank high with many.

The Georgia Surveyor General Department: A History and Inventory of Georgia's Land Office / Marion R. Hemperley. Atlanta: State Printing Office, 1982. ($6, postpaid, from Surveyor General Dept., Archives and Records Building, 330 Capitol Ave., Atlanta, GA 30334)

Few states have had such an unusual history of land alienation (lotteries, cities with circular boundaries) and few states are so active in publishing information about early cartographic records, as Georgia. Mr. Hemperley, whose department has previously produced several finding aids and lists of early maps, presents here a concise (52 p.) history of the surveying, warranting, and distribution of Georgia's lands. The operation of Georgia's six land lotteries (were they used in any other state?) is described in interesting detail. The second half of the volume consists of descriptions of the seventy-one record groups used to organize the archives of the department. This will be a basic reference for genealogists and historians interested in Georgia.

Historical Change in the Physical Environment / London: Butterworth Scientific, 1982. ($22. Borough Green, Sevenoaks, Kent TN15 6BR, England).

The object of this attractively-produced book is to show how useful historical sources can be to geographers. There is an interesting section on map-sources, with illustrations, and then a good many examples of the way

in which maps and other evidence can be used to study such phenomena as changes in the climate, in the coastline, in glaciers, in vegetation and so on.

The History of Polish Cartography / by Karol Buczek. 2d edition. Amsterdam: Meridian Publishing Company, 1982 (from Meridian, P.O. Box 4061, Amsterdam).

This second edition is a photographic reprint of the first English edition published in 1966 by the Polish Academy of Sciences. That edition was published in fewer than 500 copies and has undoubtably been long out of print. It was issued in the form of a paperbound book accompanied by 60 loose plates; in this edition plates and book are bound together between hard covers and a new foreword by the author and a bibliography of his published works are included. This is a very thorough history of the mapping of Poland and it includes as well some information on the work of Polish cartographers elsewhere. It is heavily documented and the many illustrations, generally clearly reproduced, put it in the front ranks of national histories of cartography. The English translation is very well done. There are indexes to personal and ethnographical and geographical names, and while there is no bibliography, careful study of the over 400 footnotes would surely yield a very full bibliography of Polish cartographic history.

La Salle and his legacy: Frenchmen and Indians in the Lower Mississippi Valley / Patricia K. Galloway, editor. Jackson: University Press of Mississippi, 1982 ($20 from the Press, 3825 Ridgewood Road, Jackson, MS 39211).

Many of the articles in this attractively-produced collection are of interest to historians of cartography. In particular, Louis de Vorsey's paper on 'The impact of the La Salle expedition of 1682 on European cartography' reopens the question of whether or not the great explorer wilfully misled the King in placing the mouth of the Missisippi so far to the West, and the papers by Samuel Wilson (French fortification at Fort Rosalie, Natchez) and Carl Ekberg (The English Bend: forgotten gateway to New Orleans) reproduce many interesting manuscript maps.

On the Map: An Exhibit and Catalogue of Maps Relating to Maryland and the Chesapeake Bay Honoring George Washington at the Beginning of the Third Century of Washington College at Chestertown, Maryland, February 21-March 6, 1983 / by Russell Morrison, Edward C. Papenfuse, Nancy M. Bramucci, Robert J. H. Janson-La Palme. Chestertown, MD: Washington College, 1983. ($10.63 from Map Exhibit, Clifton Miller Library, Washington College, Chestertown, MD 21620).

When Washington College mounted an exhibition of 58 maps illlustrating the history of its region, it went top-drawer all the way: there are splendid maps here from manuscript maps in the hand of George Washington through the White & Smith maps, the Mason & Dixon map, the Augustine Herrman map, the Desbarres chart, the Fry & Jefferson map, and dozens of others right up to 1832. They are described in detail and each is superbly illustrated by a high quality offset reproduction. This makes it a really usable substitute for attendance at the exhibition, and a reference book of permanent value in its own right. This publication is a fitting celebration of the bicentennial of Washington College, whose first principal, the Reverend William Smith, is shown next to a theodolite in Gilbert Stuart's portrait. Smith thought that "at proper Seasons, when the Weather permits," the students should be "exercis'd in Practical Geometry; in surveying Lands, Waters; and in plotting and ornamenting the Maps of such Surveys." On the Map *will take its place alongside the* Hammond-Harwood House Atlas of Historical Maps of Maryland *(reviewed in* Mapline 29) *as an indispensable reference work on the mapping of Maryland and the Chesapeake Bay region.*

The Visual Display of Quantitative Information / Edward R. Tufte. Cheshire, Conn.: The Graphics Press, 1983. ($32 from Graphics Press, Box 430, Cheshire, CT 06410)

Maps are just one (and often not the most effective) kind of graphic analyzed in this stimulating book. Tufte, who has been a professor of public affairs, political science, and statistics, as well as teaching graphic design, has provided both a critique of modern graphic design and a manual of practice. His illustrations are culled from the best and the worst; the worst lie, sometimes outrageously, about the facts they are supposed to show, and the best can be elegant "instruments for reasoning about quantitative information." He has high praise for some of the pioneers of graphics, especially the eighteenth- and nineteenth-century work of Playfair, Minard, and Marey. Minard's complex depiction of Napoleon's disasterous Russian campaign is part map, part time-series chart, and Tufte thinks "it may well be the best statistical graphic ever drawn." Tufte writes clearly and with humor (he castigates "chartjunk," "boutique Data Graphics," and the "We-Used-A-Computer-To-Build-A-Duck Syndrome"). His "practical theory of data graphics" is presented sequentially as a series of brief rules and aphorisms ("Graphical excellence is nearly always multivariate," "Maximize the data-ink ratio, within reason") and he shows how often graphics can be vastly improved by erasing (maximizing the data-ink ratio). As befits its subject, the book is beautifully produced, and the integration of graphics and text is remarkably smooth. For anyone involved in practical cartography, this is an essential book.

Map Society News

It is hoped that *Mapline* can publish news of map society activities. Several map societies are regular correspondents and in fact, The Michigan Map Society has made a special arrangement for reduced prices for group subscriptions. We invite inquiries for such arrangements from other societies. The editor is interested in receiving updates of information and activities and it also will be of interest to our readers to learn of the formation of new societies. Let us know about your activities so they can be shared!